

Learning in a Global Pandemic

EES 3310/5310

Global Climate Change

Jonathan Gilligan

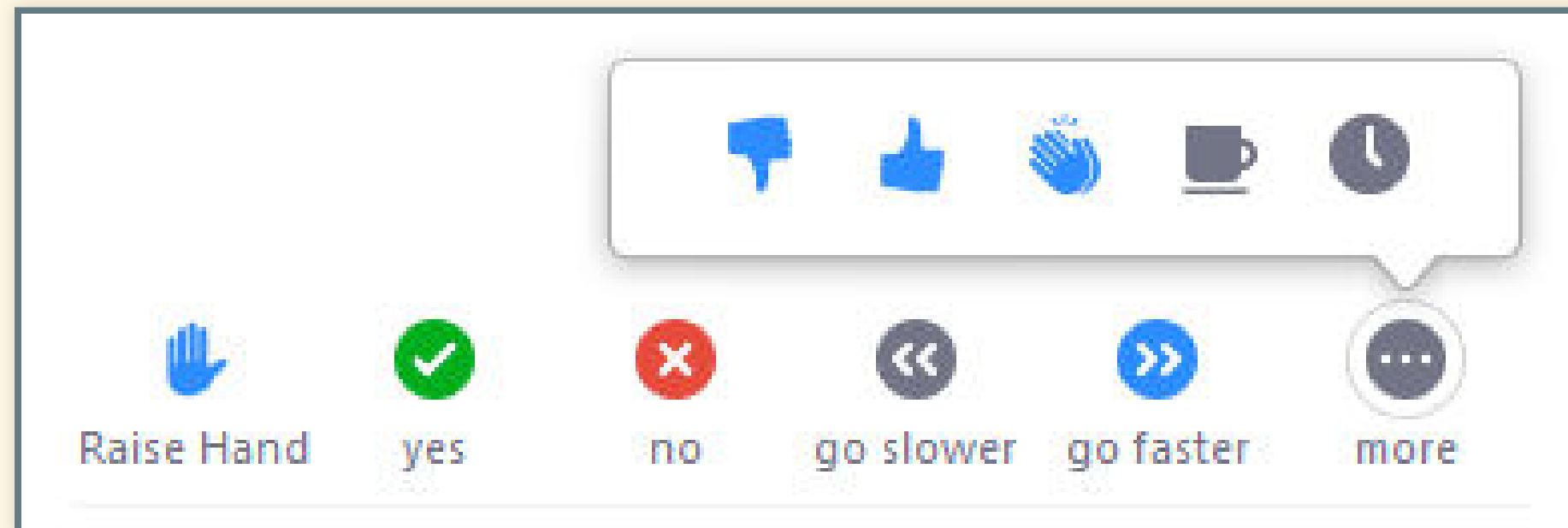
Class #25: Monday, March 16 2020

Meeting via Zoom

Meeting via Zoom

Some basic hints

- With many of us online, please mute your microphone unless you're talking, to keep background noise down.
- Use the chat feature
 - Also non-verbal communication



- If your connection is spotty, turning off your own camera can free up bandwidth for audio and incoming video.

Examples

Zoom Meeting ID: 201-187-418

00:01:58

Enter Full Screen



Jonathan Gilligan

Unmute

Stop Video

Invite

Manage Participants

Share Screen

Chat

Record

Closed Caption

Breakout Rooms

Reactions

End Meeting

Participants (1)

Jonathan Gilligan (Host, me)

no video

yes

no

go slower

go faster

more

clear all

Mute All

Unmute All

More

Zoom Group Chat

To: Everyone

Type message here...

[style="height:750px;"]

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Piazza

Piazza

The screenshot shows the Piazza web application interface. At the top, there's a browser window with tabs for Google Calendar, EES 3310/5310, and EES 3310. The address bar shows the URL <https://piazza.com/class/k7m2pk9fwm>. The Piazza header includes the logo, a dropdown menu for "EES 3310" (highlighted with a red circle), and navigation links for "Q & A", "Resources", "Statistics", and "Manage Class". The user profile "Jonathan Gilligan" is visible in the top right.

Below the header, there's a sidebar with tabs for "Drafts", "Reading list", "logistics", "other", and "labs". The "logistics" tab is selected. The sidebar shows a list of posts, with "Informal online class meetin..." highlighted. The main content area displays a note from user "@8" titled "note @8". The note content is as follows:

note @8 stop following 6 views

Informal online class meeting Monday March 16, 9:10-10:00

Informal online class Monday

Just a reminder: We will have an informal online class meeting tomorrow (Monday March 16) from 9:10-10:00 Central time. Attendance is optional. Many people are traveling, or have poor access to high-speed internet, or are in a distant time zone. It's no problem if you can't make it or if you choose not to join.

- I will use the time to check in with all of you and start discussing plans for the rest of the semester.
- I will also talk a bit about how policy analysts look at the coronavirus pandemic and the similarities and differences to the problem of global climate change.

I will record all this and post the recording to Brightspace so people who weren't able to join can watch it. We will also discuss this on Piazza over the next several days, which will give everyone a chance to participate and be heard.

Joining the meeting

To join the meeting on Zoom, go to <https://vanderbilt.zoom.us/my/jgilligan> or <https://vanderbilt.zoom.us/j/4078094077>

If you want to call in on a telephone,

One tap mobile in the US:

- [+16465588656](tel:+16465588656), [4078094077](tel:+13462487799) (if you're closer to New York)
- [+13462487799](tel:+13462487799), [4078094077](tel:+16465588656) (if you're closer to Houston)

Or dial

- [+1 646 558 8656](tel:+16465588656) (if you're closer to New York)
- [+1 346 248 7799](tel:+13462487799) (if you're closer to Houston)

and then enter the Meeting ID: 407 809 4077

If you're not in the US, you can find your local number at <https://vanderbilt.zoom.us/u/abETPGYQdo>

logistics

edit good note 0 Updated 6 hours ago by Jonathan Gilligan

Average Response Time: **N/A** Special Mentions: There are no special mentions at this time. Online Now: **4** | This Week: **9**

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How are you doing?

Goals for the semester

Goals for the semester

- What do you most want to learn from the rest of this course?
- How can we structure the class to be most useful to you?

Topics in original syllabus

- Kaya identity and policy analysis for clean-energy transition
- Economic perspectives on climate change
 - Identifying goals of climate policy
 - Putting a price on greenhouse gas emissions
 - Intergenerational justice and the value of time
 - ~~Limits of economic approaches~~
- Clean energy technology
 - ~~Renewable energy~~
 - ~~Nuclear energy~~
- Geoengineering
 - Manipulating Earth's albedo
 - Removing CO₂ from the atmosphere
- Policy:
 - History of US & international climate policy
 - Pragmatic policy options: Ideas for doing better
- What would *you* like to focus on?

Organizing the Semester

- Options:
 - Zoom classes
 - Pre-recorded lectures with discussion on Piazza
 - Pre-recorded lectures followed by Zoom discussions
 - Mixture of the above
 - Other options

COVID-19 Pandemic

COVID-19 Pandemic

- Unprecedented in our lifetimes
 - This includes my lifetime and my parents' lifetimes
- Coronavirus
 - A common category of virus
 - Several deadly coronavirus epidemics:
 - SARS (Severe Acute Respiratory Syndrome)
 - 2002–2003 epidemic
 - 8096 people infected, 774 deaths
 - MERS (Middle-East Respiratory Syndrome)
 - 2012–present (outbreaks in 2012, 2015, and 2018)
 - Total impact: 2500 cases, 862 deaths
 - COVID-19 (2019 coronavirus disease)
 - So far: 170,000 infections, 6,513 deaths

Why Is It so Dangerous

- Long period when people are contagious but don't show symptoms
- Many infected (and contagious) people only have mild symptoms or no symptoms at all
- 80% of infected people suffer only a mild illness
- 20% suffer severe symptoms
 - Very little risk for healthy people under 50
 - Immunocompromised young people are at high risk
 - Above 50, risks rise rapidly:
 - Around 5% of people 60–69 die.
 - Around 10% of people 70–79 die.
 - Around 20% of people 80–89 die.
- Spreads rapidly: On average, each infected person infects 2.2 others
- Reducing interpersonal contact is crucial to slowing spread
 - Avoid unnecessary interpersonal contact outside household
 - Isolate infected and exposed people
 - Practice good hygiene

Rapid spread of COVID-19 infections

- China, US, S. Korea, Iran, most of Europe, etc.
 - Case count rises around 33% per day
 - 7.4-fold increase per week
 - Today, US has about 3,700 cases
 - If this continues:
 - In a week this would become 27,000
 - In 2 weeks this would become 200,000
 - In 3 weeks this would become 1,500,000
- Singapore, Hong Kong
 - Reduced spread from 33% per day to 3.3% per day
 - 1.3-fold increase per week instead of 7.4-fold
 - After 3 weeks, US would have 7,000 cases instead of 1,500,000
 - Aggressive containment:
 - Extensive testing
 - Contact tracing (Singapore)
 - Enforced quarantine

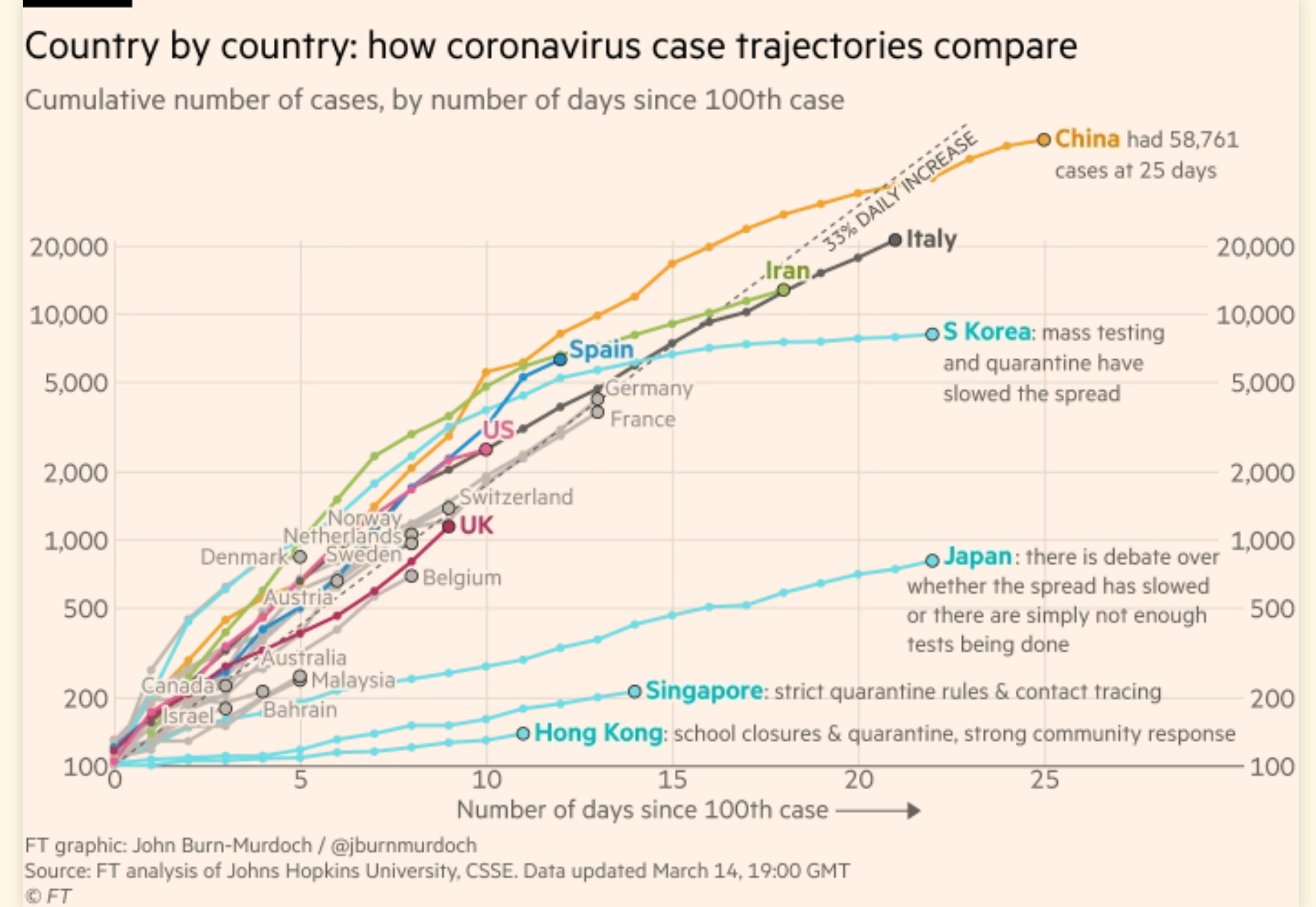


Image credit: John Burn-Murdoch, Financial Times

COVID-19 is like climate change on fast-forward

- Aggressive early action, before the problem seems severe is most effective at preventing a crisis
- If we fail to act early, it becomes much harder to control the problem
 - A “wait and see” policy means waiting until there is a crisis and options are limited
- Both have tipping points
 - For COVID-19, when there aren’t enough hospital beds, ventilators, etc.
- Both are collective action problems.
- Both are global problems that need coordinated action by all the nations of the world.
- Prominent political figures have attempted to avoid taking difficult decisions by claiming both problems were “hoaxes”.
- In both cases, failing to take the important early actions does not mean it is too late to make a big difference.
 - We can still do a lot to keep bad situations with the pandemic and climate change from becoming catastrophes.